# POLLUTION PREVENTION

## NADEP POLLUTION PREVENTION IMPLEMENTATION HANDBOOK

### LEAD ACTIVITY
Naval Aviation Depot (NADEP) North Island

### STATUS
Complete

### MISSION
Transfer pollution prevention (P2) technology

### REQUIREMENT
In order to encourage the use of P2 initiatives, a method for sharing successes and providing information regarding alternative processes and materials is required.

### DESCRIPTION
As part of Naval Air Station (NAS) North Island technology transfer efforts, NELP prepared a P2 implementation handbook that describes NADEP North Island P2 success stories. The purpose of the handbook is to provide information regarding approved, alternative processes and materials that can replace hazardous materials commonly used in naval aviation maintenance operations.

The handbook shares successful P2 strategies and technologies and promotes technology transfer among Navy command-level personnel. The handbook also presents P2 strategies that have been implemented successfully for Navy maintenance activities, provides sufficient information to allow working-level personnel to implement alternative P2 technologies or processes, and provides detailed cost/benefit analyses. As additional P2 options are approved, the handbook will be updated to include the new P2 alternatives. Currently, the following technologies are described in the P2 handbook.

| Application Area | Project Name | Description |
|---|---|---|
| Metal Finishing | Boric/Sulfuric Acid Aluminum Anodizing (BSAA) | BSAA replaces a chromic acid aluminum anodizing process. This new process eliminates the use of chromic acid as an anodizing agent. |
| Metal Finishing | Electrolytic Recovery Unit (ERU) | The ERU recovers cadmium and destroys cyanide from the plating bath. This process reduced the amount of raw material required and the amount of cyanide that must be treated. |
| Metal Finishing | Spray Rinsing | The spray rinsing process replaces a dead rinse process. This procedure reduces water consumption and the volume of wastewater generated. |

| Application Area | Project Name | Description |
|---|---|---|
| Metal Finishing | Wet to Dry Scrubbers | The open-loop scrubbers at NADEP North Island were retrofitted into dry scrubbers. The dry scrubber prevents the generation of 49,501 gallons of contaminated water per year. |
| Metal Finishing | Mesh Pad Demister | The mesh pad demister replaced the wet scrubber. It has a 99.9% removal efficiency to reduce chromic acid air emissions. The mesh pad demister also recycles chrome by returning it to the plating bath. |
| Cleaning and Surface Preparation | Power Parts Washers | The aqueous parts washer used with an alkaline cleaner replaces most PD-680 (stoddard solvent) for surface preparation. By replacing PD-680, volatile organic compound emissions are reduced. |
| Recycling Programs | Can Crusher/Rag Compactor | The solid waste compactor and recycling process consolidates metal containers for recycling. NADEP also uses this process to reduce the volume of hazardous waste and solid waste. |
| Recycling Programs | Plastic Media Recycling | NADEP contracted with an outside vendor to lease plastic media for the plastic media blast (PMB) booth. The vendor collects the spent plastic media with paint solids, recycles the material, and incorporates it into a new product (such as tabletops). The plastic media leasing program reduced hazardous waste generated from the paint removal process at NADEP. |
| Material and Waste Management | Hazardous Material Management System | NADEP adapted the Depot Maintenance Hazardous Material Management System (HMMS) to track hazardous material usage for all shop level activities. The HMMS inventories and helps personnel control the flow of hazardous material at various material issuing locations. |
| Compliance Program | Self-Inspection Program | NADEP instituted a self-inspection program to track potential notices of violations (NOV). This aggressive self-inspection program enables NADEP to maintain compliance. |
| Various | Stardust Super Absorbent | NADEP replaced the traditional clay absorbent used for spill cleanup with Stardust Super Absorbent. The Stardust Super Absorbent reduced absorbent disposal volumes and associated costs. The total cost savings were estimated to be $55,121 per year in waste disposal costs. |

## BENEFITS

- Successes and lessons learned are shared with others
- P2 initiatives are encouraged, waste reduction is promoted, and provides information on the hazardous materials commonly used

## ACCOMPLISHMENTS/CURRENT STATUS

| Date | Activity |
|---|---|
| FEB 1995 | NAS North Island reviewed existing EPA, DoD, and Navy P2 technology transfer formats and prepared a format considered most useful to working-level personnel |
| MAR 1995 | NAS North Island collected P2 success stories from NADEP activities |
| APR 1995 | A Draft P2 implementation handbook was submitted for review and |

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|---|---|
| | approval |
| OCT 1996 | Additional P2 information was updated into the P2 Implementation Handbook. The handbook was submitted to NAS North Island for review and approval |
| MAY 1997 | P2 implementation handbook placed on the NELP Web site for download; Project Complete, Exported |
| MAR 1999 | Prepare a similar document specific to Aircraft Intermediate Maintenance Departments (AIMD) |

**FUTURE PLAN OF ACTION & MILESTONES**
Not Applicable

**COLLABORATION/TECHNOLOGY TRANSFER**
NADEP has shared P2 technologies with other Navy activities to encourage use of P2 methods. NADEP expects that the P2 implementation handbook will be useful to Navy personnel for (1) conducting depot aircraft maintenance operations (in accordance with OPNAVINST 4790.2E) and (2) implementing P2 programs and techniques to meet the requirements of Executive Order 12856 and OPNAVINST 5090.1B.

**BIBLIOGRAPHY**

- Naval Facilities Engineering Service Center (NFESC). Navy Pollution Prevention Opportunity Handbook (Draft). 1994.
- Gallop, Lt. Mike. USS Theodore Roosevelt Environmental Compliance Program "Cookbook."
- Chief of Naval Operations. Naval Shore Installation Pollution Prevention Planning Guide. October 1994.


**RELATED GOVERNMENT INTERNET SITES**
Pollution Prevention Implementation Handbook

**RELATED NAVY GUIDEBOOK REQUIREMENTS**
- 10008 P2 Annual Data Summary (P2ADS)

*UPDATED: 01/23/02*